

Section 11. Appendix

Table 1. Current tobacco use among Kentucky middle school students by gender, race/ethnicity, and grade

Category	Any Tobacco Use		Cigarette Use		Cigar Use		Bidis Use		Smokeless Tobacco Use	
	%	95% CI	%	95% CI	%	95% CI	%	95% CI	%	95% CI
Gender										
Male	33.0	6.1	21.9	5.6	15.3	3.4	5.0	1.7	16.3	5.9
Female	23.2	3.2	21.1	3.4	5.8	2.0	2.2	1.1	2.1	1.0
Race/Ethnicity										
White	28.3	4.4	21.6	3.8	10.7	2.7	3.6	1.1	9.6	3.5
African American	19.6	9.5	17.5	10.4	5.5	3.8	3.0	3.8	4.9	4.8
Hispanic	10.1	11.4	8.4	10.8	2.0	3.9	2.0	3.9	4.6	7.0
Other	45.1	14.2	31.3	13.8	20.2	13.0	5.2	5.0	13.0	9.8
Grade										
6	15.2	3.1	10.2	3.2	4.5	1.7	2.1	1.4	3.6	2.5
7	35.7	5.6	27.6	4.6	12.7	3.7	4.8	2.7	14.3	5.3
8	33.0	9.2	25.7	9.2	15.1	4.8	4.3	2.4	10.6	5.3
Total	28.3	4.4	21.5	3.9	10.7	2.5	3.7	1.1	9.4	3.3

* Current tobacco use is defined as use on one or more of the 30 days preceding the survey

+ Includes cigarettes, cigars, bidis, or smokeless tobacco

Table 2. Current tobacco use among Kentucky high school students by gender, race/ethnicity, and grade

Category	Any Tobacco Use		Cigarette Use		Cigar Use		Bidis Use		Smokeless Tobacco Use	
	%	95% CI	%	95% CI	%	95% CI	%	95% CI	%	95% CI
Gender										
Male	50.2	3.9	35.6	4.2	26.8	2.8	5.2	1.4	23.0	4.3
Female	41.8	4.9	39.0	5.7	11.0	3.4	2.7	0.9	2.2	1.2
Race/Ethnicity										
White	46.5	3.8	37.8	4.4	18.7	2.7	3.1	0.9	12.6	3.1
African American	34.1	10.0	21.4	9.2	18.8	6.4	11.9	3.3	8.2	3.4
Hispanic	61.0	13.7	55.1	17.1	28.6	12.0	14.9	11.2	15.5	11.9
Other	42.4	14.9	33.1	12.0	20.6	13.7	8.1	8.7	25.9	15.4
Grade										
9	42.8	7.7	32.3	7.2	18.9	4.5	4.4	1.6	12.7	5.1
10	44.6	7.2	36.5	8.1	16.3	4.3	2.3	1.5	13.6	4.3
11	48.3	5.4	39.8	5.5	21.2	5.5	5.8	3.3	10.9	3.9
12	50.3	7.1	42.1	7.6	20.1	4.9	3.7	2.7	13.1	4.4
Total	46.2	3.6	37.4	4.2	19.1	2.5	4.1	0.9	12.7	2.7

* Current tobacco use is defined as use on one or more of the 30 days preceding the survey

+ Includes cigarettes, cigars, bidis, or smokeless tobacco

Table 3. Sample Characteristics by Gender and Ethnicity

Category	Middle School		High School	
	No.	%	No.	%
Gender				
Male	629	49	692	53
Female	651	51	615	47
Race/Ethnicity				
White	1,101	86	1,124	86
African American	97	8	106	8
Hispanic	22	2	39	3
Other*	58	4	36	3

*Other category includes American Indian or Alaska Native, Asian, Native Hawaiian or Other Pacific Islander

Note. The total for middle and high school students by gender and race are slightly less than the total number of participants for each school level due to missing data.

Technical Notes

Instrument

Middle and high school students were surveyed using the *Youth Tobacco Survey* (YTS) instrument developed by the Centers for Disease Control. The results of the Kentucky portion of this national survey (henceforth denoted KYTS) is described in this report.

Sample

The KYTS sample is representative of all middle and high school students in Kentucky. The survey was administered to middle and high school students throughout the state.

A two-stage cluster sample design was used to select the potential participants. The first stage consisted of randomly choosing 50 middle schools from among the 214 middle schools in the state and 49 high schools from among 248 available with probability proportional to size (PPS). Of these, 37 middle schools and 40 high schools agreed to participate. The school participation rates were 74.0% (37/50) for middle schools and 81.6% (40/49) for high schools.

The second stage of the sampling involved randomly choosing classes within the sampled schools. All students from each randomly selected classroom were asked to participate. In all, an average of 42 students from each middle school and 40 students from each high school were invited to complete the survey. A total of 1,282 middle school students (grades 6-8) in 37 schools completed the survey, as did 1,313 high school students (grades 9-12) in 40 schools. The participation rate for middle school students was 83.3% (1282/1539); the participation rate for high school students was 82.1% (1313/1600).

The responses were weighted by the Centers for Disease Control after the survey was administered. Weighing of the data was used to adjust for nonresponse at both the grade and school level in order to make the results representative of all middle and high school students in Kentucky.

Summary Methods Used

The report uses a combination of descriptive and graphical methods to present survey data. The graphs included all indicate the percentage in each response category as well as the confidence interval for the observed percentage. The confidence interval is a function of the sample size responding to the item as well as the how close the estimated response percentage is to 50%.

For items with fewer students responding (e.g., smoking patterns among middle school Hispanics), the confidence interval will typically be wider to account for a lower degree of certainty due to the limited sample size. Conversely, items with a larger group of respondents will tend to have narrower confidence intervals.

In general, as the estimated percentage is closer to 50%, the confidence interval is wider. As the estimated percentage moves closer to 0% or 100%, the confidence interval gets narrower. This phenomenon occurs because the variability in responses is a function of the observed percentage, and when the observed percentage is equal to 50%, the variability is at its maximum, given a fixed sample size.

The interpretation of the 95% confidence interval is that if this survey were to be carried out 100 times, the confidence intervals obtained in each case would contain the *true* population percentage (of high school smokers, for example) 95% of the time. So while it isn't certain that the true population proportion is contained within a *particular* confidence interval, we can say we are 95% confident in the method of obtaining the particular confidence interval.

It should be noted that while the percentages displayed in the tables and graphs reflect the *weighted* responses, the error estimates for the confidence intervals are based on the *actual* number of students participating. This is in keeping with the CDC guidelines for the reporting of percentages and generation of confidence intervals.

References

1. Center for Disease Control and Prevention. (2000). Youth tobacco surveillance United States, 1998-1999, *MMWR*, 49, 1-94.
2. Department for Public Health. (2000). *Healthy Kentuckians 2010. Prevention initiative*. Frankfort, KY: Author.
3. U.S. Department of Health and Human Services. (2000). *Reducing Tobacco Use: A report of the Surgeon General*. Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, national Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health.
4. Center for Disease Control and Prevention. (1999). *Best practices for comprehensive tobacco control programs-August 1999*. Atlanta GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National enter for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health.
5. U.S. Department of Health and Human Services. (1998). *Tobacco use among U.S. racial/ethnic minority groups—African Americans, American Indians and Alaska Natives, Asian Americans and Pacific Islanders, and Hispanics: A report of the Surgeon General*. Atlanta: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention.
6. Hahn, E.J., & Rayens, M.K. (2000). Alcohol, tobacco and other drug prevention curricula in Kentucky middle and high schools. (unpublished data). Available from E. Hahn, University of Kentucky College of Nursing, 859-257-2358.
7. Lantz, PM et al. (2000). Investing in youth tobacco control: A review of smoking prevention and control strategies. *Tobacco Control*, 9, 47-63.
8. Welch, C.E. (December 1999). *State legislated actions on tobacco issues*. Washington, DC: American Lung Association.
9. Centers for Disease Control and Prevention. (2000). Tobacco use among middle and high school students—United States, 1999. *MMWR*; 49: 49-53.
10. United States Department of Health and Human Services. (1998). *Cigars: Health effects and trends. Monograph No. 9*. Bethesda, MD: National Cancer Institute. (NIH Publication No. 98-4302.)

11. Centers for Disease Control and Prevention. (November 2, 2000). *Bidi use among urban youth—Massachusetts, March – April, 1999. Fact Sheet*. Available at: www.cdc.gov/tobacco/research_data/youth/mmwr999fs.htm.
12. Substance Abuse and Mental Health Services Administration. (1997). *Reducing tobacco use among youth: Community-based approaches*. Prevention Enhancement Protocols System (PEPS). Rockville, MD: Department of Health and Human Services. Center for Substance Abuse Prevention. (DHHS Publication No. (SMA) 97-3146).
13. Orzechowski & Walker. (1999). *The tax burden on tobacco: Historical compilation, Volume 34*. Available from 2111 Wilson Boulevard, Suite 700, Arlington, VA 22201.
14. Chaloupka, FJ, & Pacula RL. (1999). Sex and race differences in young people's responsiveness to price and tobacco control policies. *Tobacco Control*, 8, 373-377.
15. National Cancer Institute. (1999). *Health effects of exposure to environmental tobacco smoke: The report of the California Environmental Protection Agency. Smoking and Tobacco Control Monograph No. 10*. Bethesda, MD: US Department of Health and Human Services, National Institutes of Health, National Cancer Institute. (NIH Publication No. 99-4645).
16. Fiore, M.C., Bailey, W.C., Cohen, S.J., et al. (June 2000). *Treating tobacco use and dependence. Clinical practice guideline*. Rockville, MD: US Department of Health and Human Services, Public Health Service.
17. Miller, V.P., Ernst, C., & Collin, F. (1999). Smoking-attributable medical care costs in the USA. *Social Science & Medicine*, 48, 375-391.
18. Pierce, J.P., Choi, W.S., Gilpin, E.A., Farkas, A.J., & Berry, C.C. (1998). Tobacco industry promotion of cigarettes and adolescent smoking. *Journal of the American Medical Association*, 279 (7), 511-515.
19. Federal Trade Commission. (2000). *Report to Congress for 1998: Pursuant to the Federal Cigarette Labeling and Advertising Act*. Washington: Federal Trade Commission.
20. Centers for Disease Control and Prevention. (1994). Changes in the cigarette brand preferences of adolescent smokers. *MMWR*, 43 (32), 577-581.
21. Pollay, R.W., Siddarth, S., Siegel, M., et al. (1996). The last straw? Cigarette advertising and realized market shares among youths and adults. 1979-1993. *Journal of Marketing*, 60, 1-16.
22. Alcoholic Beverage Control (ABC) Teen Tobacco Enforcement Program. (2000). *Illegal tobacco sales to minors, 1997-1999*. (unpublished data). Available from ABC, 1003 Twilight Trail, Suite A-2, Frankfort, KY 40601.

23. Centers for Disease Control and Prevention (CDC). (1994). Guidelines for school health programs to prevent tobacco use and addiction. *MMWR*, 43, 1-17 (No. RR-2).
24. Lynch, B.S. & Bonnie, R.J. (1994). *Growing up tobacco free: preventing nicotine addiction in children and youths*. Washington, DC: National Academy Press.
25. Hahn, E.J., Toumey, C.P., Rayens, M.K., & McCoy, C. (1999). Kentucky legislators' views on tobacco policy. *American Journal of Preventive Medicine*, 16 (2), 81-88.

Healthy Kentuckians 2010 Tobacco Use Objectives

This report contributes essential knowledge that must be incorporated into efforts to accomplish the Healthy Kentuckians 2010 Prevention Initiative.¹ Healthy Kentuckians 2010 is our state's commitment to the national prevention initiative, Healthy People 2010. The Healthy Kentuckians 2010 Prevention Objectives fall into four major categories: (1) promoting healthy behaviors; (2) promoting healthy and safe communities; (3) improving systems for personal and public health; and (4) preventing and reducing disease and disorders.¹ The Recommended Actions in this report are consistent with the following Healthy Kentuckians 2010 Tobacco Use Objectives:

Objective 3.6 Reduce to 28% the proportion of young people who have smoked cigarettes with the past 30 days (1997 Baseline: 47.0%, males 48.4% and females 45.3%).

Objective 3.6a Reduce by 40% the proportion of young people who have used smokeless tobacco in the past 30 days (1997 Baseline: males 28.6% and females 2.3%).

Objective 3.8 Increase to 32% the proportion of young people in grades 9 to 12 who have never smoked (1997 Baseline: 22.7%).

Objective 3.9 Increase to 56% the proportion of youth smokers who quit for at least one day or more (1997 Baseline: 39.7%).

Objective 3.10 Increase the proportion of 8th, 10th, and 12th graders who disapprove of tobacco use.

Objective 3.11 Increase the proportion of 8th-12th graders who associate harm with tobacco use.

Objective 3.12 Increase the proportion of schools (middle and high) that provide research-based tobacco use prevention curricula (1998 Baseline: 9%).

Objective 3.13 Enforce minors' access laws to increase compliance to 95 percent or higher (1998 Baseline: 86%).

Objective 3.15 Increase to 100 percent the proportion of schools with tobacco-free environments including all school property, vehicles, and at all school events.

Objective 3.16 Increase to 100 percent the proportion of worksites that prohibit smoking or limit it to separately ventilated areas.

Objective 3.18 Increase to 95% the proportion of patients who receive advice to quit smoking from a health care provider.

Objective 3.19 Increase the proportion of health plans that reimburse for nicotine addiction treatment.

Objective 3.22 Increase the proportion of localities that adopt ordinances and/or policies to restrict tobacco use.